



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,068	10/28/2003	J. Stewart Young	4002-3432	5996
<div>7590 11/29/2007 Woodard, Emhardt, Moriarty, McNett & Henry LLP Suite 3700 Bank One Center/Tower 111 Monument Circle Indianapolis, IN 46204-5137</div>			<div>EXAMINER CUMBERLEDGE, JERRY L</div>	
			<div>ART UNIT 3733</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 11/29/2007</div>	<div>DELIVERY MODE PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/695,068

Applicant(s)

YOUNG ET AL.

Examiner

Jerry Cumberledge

Art Unit

3733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 10-16, 20, 21, 22, 27, 28, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allard et al. (US Pat. 5,275,600) in view of Assaker (US Pat. 5,620,444) in view of Miskew (US Pat. 4,274,401).

Allard et al. disclose an interconnection apparatus for securing a pair of elongate members, said apparatus comprising: a solid non-hollow shaft (Fig. 1, ref. 30), wherein said shaft is solid across the entire cross-section of said shaft and includes no internal cavity (Fig. 1); a first hook (Fig. 1, ref. 16) including a first internal surface (Fig. 1, inside curved portion of ref. 16) having a curved portion (Fig. 1) configured to at least partly encircle a first one of the pair of non-parallel, elongate members; and a second hook (Fig. 1, ref. 18) including a first end unitary and integral with the shaft at a position axially displaced from the first hook (Fig. 1), said second hook terminating at a second end spaced laterally from the shaft (Fig. 1) and comprising a second internal surface (Fig. 1, inside curved portion of ref. 18) having a curved portion (Fig. 1). The first end, the second end of the second hook, and the shaft define a first plane and the first hook extends laterally from the shaft along the first plane (Fig. 1). The shaft has a round or oval cross-sectional profile (Fig. 4, near ref. 36). The shaft is curved (Fig. 1). The first

hook is secured to the first spinal rod and the second hook is secured to a second spinal rod (column 1, lines 7-9). The apparatus is formed as a one-piece unit (Fig. 4, when assembled).

Allard et al. disclose an interconnection apparatus for securing a pair of elongate members, said apparatus comprising: a solid non-hollow shaft (Fig. 1, ref. 30), wherein said shaft is solid across the entire cross-section of said shaft and includes no internal cavity (Fig. 1); a first hook (Fig. 1, ref. 16) including a first internal surface (Fig. 1, inside curved portion of ref. 16) having a curved portion (Fig. 1) configured to at least partly encircle a first one of the pair of non-parallel, elongate members; and a second hook (Fig. 1, ref. 18) including a first end unitary and integral with the shaft (Fig. 1) at a position axially displaced from the first hook (Fig. 1), said second hook terminating at a second end spaced laterally from the shaft (Fig. 1) and comprising a second internal surface (Fig. 1, inside curved portion of ref. 18). The apparatus comprises a first spinal rod secured to the first rod connector and a second spinal rod secured to the second rod connector (column 1, lines 6-12). The first hook, the second hook, and the shaft are formed as a one-piece unit (Fig. 4, when assembled). The apparatus is formed as a one-piece unit (Fig. 4, when assembled).

Allard et al. disclose an interconnection apparatus for securing an elongate member, said apparatus comprising: a solid non-hollow shaft (Fig. 1, ref. 30), wherein said shaft is solid across the entire cross-section of said shaft and includes no internal cavity (Fig. 1); a first hook (Fig. 1, ref. 18) including a first end connected to the shaft (Fig. 1) and terminating at a second end spaced laterally from the shaft (Fig. 1), and an

internal surface (Fig. 1, inside surface of ref. 18) configured to engage the elongate member (Fig. 1). The apparatus comprises a first spinal rod secured to the first rod connector and a second spinal rod secured to the second rod connector (column 1, lines 6-12), wherein the first spinal rod and the second spinal rod are positioned to lie non-parallel to each other. The apparatus is formed as a one-piece unit (Fig. 4, when assembled). The shaft terminates in a first end having a protuberance (Fig. 2, ref. 34) extending laterally therefrom.

Allard et al. disclose the claimed invention except for a ridge extending along said curved portion in a direction from the first end to the second end; the second internal surface curves both in a first direction from the shaft to the second end and in a second direction oblique to the first direction, wherein said curves in said first and second directions are overlapping and intersecting; and the internal surface curves continuously both in a first direction from the shaft to the second end and in a second direction oblique to the first direction, wherein said curve in said first direction and said curve in said second direction are overlapping and intersecting. The internal surface curves in a second direction substantially orthogonal to the first direction. The internal surface curves in a second direction at an acute angle to the first direction. The internal surface curves in a second direction at an obtuse angle to the first direction

Assaker discloses a surgical spinal device (Fig. 2) that comprises a ridge (Fig. 10, ref. 21) extending along a curved portion (Fig. 10) that comprises a curvature that is oblique to a direction of the curve of the hook on which it is found (Fig. 10). This ridge

Art Unit: 3733

enables the device to grasp better by providing multiple contact points through which clamping forces can be generated (column 4, lines 60-67)(column 5, lines 1-15).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the hooks of Allard et al. with a ridge as taught by Assaker, in order to enable the device to grasp better by providing multiple contact points through which clamping forces can be generated (column 4, lines 60-67)(column 5, lines 1-15).

Allard et al. in view of Assaker disclose the claimed invention except for the second internal surface curves both in a first direction from the shaft to the second end and in a second direction oblique to the first direction, wherein said curves in said first and second directions are overlapping and intersecting; and the internal surface curves continuously both in a first direction from the shaft to the second end and in a second direction oblique to the first direction, wherein said curve in said first direction and said curve in said second direction are overlapping and intersecting.

Miskew discloses a spinal apparatus that comprises a hook (Fig. 7 and 5) that comprises a ridge (Fig. 5, ref. 78) that curves in a direction from the shaft to the second end (Fig. 5), wherein said curve in said first direction and said ridge are overlapping and intersecting (Fig. 5). This enables the device to achieve more secure hooking (column 6, lines 35-38).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the device of Allard et al. in view of

Art Unit: 3733

Assaker with the overlapping and intersecting surfaces disclosed by Miskew, in order to enable the device to achieve more secure hooking (column 6, lines 35-38).

Allard et al. in view of Assaker in view of Miskew disclose a method of treating a spinal deformity, said method comprising: securing a first spinal rod and a second spinal rod to two or more vertebrae (Allard et al., column 1, lines 5-32); providing an apparatus according to claim 1 (above); and interconnecting the first spinal rod and the second spinal rod by securing the first spinal rod to the first hook and the second spinal rod to the second hook (Allard et al., column 1, lines 5-32).

With regard to claims 31 and 32, Allard et al. in view of Assaker in view of Miskew disclose the claimed invention except for the axial distance between said first hook and said second hook is permanent and non-adjustable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the apparatus of Allard et al. in view of Assaker in view of Miskew as an integral structure, which would then have a fixed distance between the hooks, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Claims 4, 6-9, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allard et al. (US Pat. 5,275,600) in view of Assaker (US Pat. 5,620,444) in view of Miskew (US Pat. 4,274,401) in view of Jackson (US Pat. 5,980,523).

Allard et al. in view of Assaker in view of Miskew disclose the claimed invention except for the shaft defining a substantially planar plate. The shaft is used to connect two opposite hooks (Fig. 1)(Fig. 4).

Jackson discloses a spinal apparatus that comprises a hooked device (Fig. 6) that comprises a substantially planar shaft (Fig. 6, ref. 82). The shaft connects the two oppositely situated hooks (Fig. 6).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have substituted the rod-like shaft of Allard et al. in view of Assaker in view of Miskew with a planar shaft as taught by Jackson in order to achieve the predictable result of connecting two oppositely situated hooks.

Allard et al. in view of Assaker in view of Miskew disclose the claimed invention except for the apparatus further comprising a first threaded aperture through said shaft and said curved portion of the first hook.

Jackson discloses a spinal apparatus that comprises a first threaded aperture through the shaft and curved portions of hooks (Fig. 5, ref. 22) (column 4, lines 40-48) and a threaded fastener threadedly received within said aperture (Fig. 5, ref. 22) (column 4, lines 40-48). This allows for a set-screw to be placed through the shaft and engage with spinal rods to secure the rods to the apparatus (column 4, lines 49-67)(column 5, line 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the interconnection apparatus of Allard et

Art Unit: 3733

al. in view of Assaker in view of Miskew with a first threaded aperture through a shaft and curved portions of hooks as taught by Jackson, in order to allow for a set-screw to be placed through the shaft and engage with spinal rods to secure the rods to the apparatus (column 4, lines 49-67)(column 5, line 1).

Allard et al. in view of Assaker in view of Miskew disclose the claimed invention except for the first spinal rod and the second spinal rod are positioned to lie non-parallel to each other; and the first spinal rod and the second spinal rod are positioned to not lie in the same plane.

Jackson discloses a spinal apparatus that comprises a configuration where the spinal rods are positioned to lie non-parallel (and not in the same plane) to each other (Fig. 4). This is desirable since, in some circumstances, placement of the rods in a skewed relationship is necessary to produce desired corrective or supporting forces on the spine (column 1, lines 15-36) and having a mechanism that allows the rods to be placed at various configurations allows for the production of these forces (column 1, lines 15-36) (column 1, lines 36-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the rods of Allard et al. in view of Assaker in view of Miskew with a non-parallel arrangement as taught by Jackson, since, in some circumstances, placement of the rods in a skewed relationship is necessary to produce desired corrective or supporting forces on the spine (column 1, lines 15-36) and having a

mechanism that allows the rods to be placed at various configurations would allow for the production of these forces (column 1, lines 15-36) (column 1, lines 36-47).

Claims 23, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allard et al. (US Pat. 5,275,600) in view of Assaker (US Pat. 5,620,444) in view of Miskew (US Pat. 4,274,401) in view of Crozet et al. (US Pat. 6,217,578 B1).

Allard et al. in view of Assaker and in view of Miskew disclose the claimed invention except for the apparatus comprises: an interconnection element including a first body having a first aperture formed therein and a stud extending from the body and wherein the shaft is received within the first aperture a second rod connector including a second shaft having a second body carried thereon, said second body having a second aperture formed therein, said second aperture having the stud received therein; and a fastener configured to engage with the stud. The stud is externally threaded. The first hook and said second hook are moveable with respect to said interconnection member.

Crozet et al. disclose a spinal apparatus (Fig. 3) that comprises an interconnection element including a first body (Fig. 3, ref. 44) having a first aperture (Fig. 3, aperture receiving ref. 62) (Fig. 4A) formed therein and a stud (Fig. 3, ref. 50) extending from the body and wherein a shaft (Fig. 3, ref. 28) is received within the first aperture (Fig. 4B), a second rod connector (Fig. 3, ref. 20) including a second shaft (Fig. 3, near ref. 32) having a second body (Fig. 3, ref. 34) carried thereon, said second body having a second aperture (Fig. 3, ref. 40) formed therein, said second aperture having

the stud received therein (Fig. 4B); and a fastener (Fig. 3, ref. 52) configured to engage with the stud. The stud is externally threaded (Fig. 3). The first hook and said second hook are moveable with respect to said interconnection member (Fig. 3). This arrangement allows for a low profile and a substantial degree of freedom between the hooks at either end of the device (column 2, lines 14-25).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the device of Allard et al. in view of Assaker in view of Miskew with an interconnection element as taught by Crozet et al., which would allow the device of Allard et al. in view of Assaker in view of Miskew to have a low profile and a substantial degree of freedom between the hooks at either end of the device (column 2, lines 14-25).

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allard et al. (US Pat. 5,275,600) in view of Assaker (US Pat. 5,620,444) in view of Miskew (US Pat. 4,274,401) in view of Crozet et al. (US Pat. 6,217,578 B1) in view of Jackson (US Pat. 5,980,523).

Allard et al. in view of Assaker in view of Miskew in view of Crozet et al. disclose the claimed invention except for a spinal apparatus that comprises a configuration where the spinal rods are positioned to lie non-parallel (and not in the same plane) to each other.

Jackson discloses a spinal apparatus that comprises a configuration where the spinal rods are positioned to lie non-parallel (and not in the same plane) to each other (Fig. 4). This is desirable since, in some circumstances, placement of the rods in a skewed relationship is necessary to produce desired corrective or supporting forces on the spine (column 1, lines 15-36) and having a mechanism that allows the rods to be placed at various configurations allows for the production of these forces (column 1, lines 15-36) (column 1, lines 36-47).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have constructed the rods of Allard et al. in view of Assaker in view of Miskew in view of Crozet et al. with a non-parallel arrangement as taught by Jackson, since, in some circumstances, placement of the rods in a skewed relationship is necessary to produce desired corrective or supporting forces on the spine (column 1, lines 15-36) and having a mechanism that allows the rods to be placed at various configurations would allow for the production of these forces (column 1, lines 15-36) (column 1, lines 36-47).

Response to Arguments

Applicant's arguments with respect to claim 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

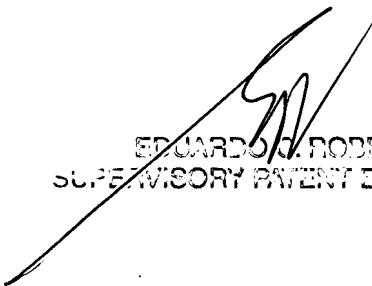
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Cumberledge whose telephone number is (571) 272-2289. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLC



EDUARDO J. ROBERT
SUPERVISORY PATENT EXAMINER